STRATEGY RESEARCH PROJECT

US ANTI-PERSONNEL LANDMINE POLICY VIS-A-VIS THE OTTAWA ANTI-PERSONNEL LANDMINE TREATY

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USAWC CLASS OF 1998

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ABSTRACT

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TITLE: US Anti-Personnel Landmine Policy vis-a-vis the Ottawa Anti-Personnel Landmine Treaty

FORMAT: Strategy Research Project

DATE: 6 April 1998 PAGES: 48 CLASSIFICATION: Unclassified

Anti-personnel landmines (APL) left in the aftermath of various conflicts around the world claim a multitude of civilian victims each year. Dismay with this annual human toll spawned a worldwide movement to ban the manufacture, use or sale of APL, culminating in Ottawa, Canada on 3 December 1997 when one hundred and twenty-two nations, but not the United States, signed a treaty implementing such a ban. While the United States supports the general goals of the treaty, our current APL policy is not in accord with an absolute ban. Instead, US policy preserves our ability to use non-self-destructing APL along the Korean DMZ and self-destructing APL worldwide. This paper will show that US APL policy is sound and that we should not sign the Ottawa Treaty.

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Anti-Personnel landmines (APL) have been used in every major conflict since at least the First World War. Through loss of documentation or knowledge or in some cases, neglect, there are estimated to be millions of mines that have not been recovered or neutralized. These problems, combined with an increase in the irresponsible use of APL in various intranational conflicts around the world, have given rise to a situation in which APL kill or wound thousands of mostly civilian victims each year, often long after the fighting has ended.[1] In reaction to the mounting human toll there developed a worldwide movement to ban the manufacture, use or sale of anti-personnel landmines. On 3 December 1997 in Ottawa, Canada one hundred and twenty-two nations signed a treaty initiating such a ban. However, the United States was not among the signatories of this agreement.

Although the United States fully supports the goals of the "Ottawa Process," US policy does not provide for the total ban the treaty requires. Instead, our policy recognizes that APL serve a legitimate military purpose and, when used responsibly, cause no more civilian suffering than other legitimate weapons of war. Accordingly, it protects our ability to use self-destructing APL worldwide and non-self-destructing APL along the Korean DMZ. This paper will show why the current US APL policy is sound, from both a humanitarian and national military strategy standpoint, and

why we should therefore refrain from signing the Ottawa Treaty.

BACKGROUND

World War I saw the first extensive use of APL, primarily to prevent the enemy from tampering with anti-tank (AT) mines. In World War II massive numbers of APL were used again mainly to protect AT minefields. With the advent of the Cold War, both sides used mixed AT and APL minefields as barriers along borders separating communist block and western nations. Korean War APL usage followed the same pattern as the world wars. As that conflict ended the warring parties installed large barrier minefields that are still in place today along the DMZ. The Vietnam War saw the first widespread use of APL against civilian targets as the Vietcong sought to disrupt economic activity and terrorize the populace in the South.[2]

This tendency to target APL against civilians gained increased momentum as the Cold War ended. Freed of Cold War superpower restraints, various insurgent groups initiated civil wars in which APL used irresponsibly by one or both sides caused thousands of non-combatant casualties. Although some of the APL causing problems today are legacies of older conflicts, the majority are the products of various civil wars fought in the past 25 years.[3]

CHARACTERISTICS, USES AND EMPLOYMENT OF APL

APL can be purchased for as little as three dollars each or they can be improvised easily in the field from common materials. They are hard to detect, particularly if buried,

expensive to remove in terms of time and manpower and are typically emplaced by hand or machine but can also be remotely delivered by artillery or aircraft. Once installed, the non-self-destructing (NSD) variety of APL, which are the ones causing the humanitarian problem, can remain lethal for decades. In contrast, the self-destructing (SD) variety of APL detonate themselves after a set period, usually two weeks or less. There are also self-neutralizing APL which disable themselves, but do not detonate, after a set period.

Minefields are particularly useful in defensive operations. By making the enemy force slow down or stop while conducting breaching operations, minefields give the defending force a longer period to engage the attackers. If the enemy chooses not to breach a properly placed minefield then he often must turn his formation into an engagement area where it can be blocked by more minefields or other obstacles and destroyed by defenders. In this way minefields act as force multipliers, greatly increasing the combat power of any given number of defenders.

Minefields typically contain a mixture of APL and anti-tank (AT) mines that, while normally deployed together, perform distinct roles in making a well positioned minefield a formidable obstacle. The AT mines are designed to destroy or disable armored vehicles but are generally ineffective against dismounted forces. APL prevent the passage of dismounted

troops but also, and more critically, keep these foot mobile forces from quickly disarming the AT mines. Therefore, the primary role of APL is to prevent the enemy from quickly disarming or destroying the AT mines, thereby making breaching attempts much more difficult and time consuming.

CAUSES AND IMPACTS OF IRRESPONSIBLE APL USE

Because NSD APL are cheap, effective force multipliers, civil war combatants are drawn to them for use against enemy forces and recalcitrant populations. The undisciplined forces on one or both sides in these conflicts often pay little attention to marking or recording minefield locations and, as discussed earlier, these forces sometimes used mines specifically to terrorize civilian populations.

In addition to civilian casualties, the irresponsible use of NSD APL can cause other long term problems. For instance, they have an economic impact because they are expensive to remove, costing by one estimate up to $1000 each to neutralize.[4] Also, there are significant costs associated with the medical treatment of and lost productivity from landmine victims. Furthermore, mined areas cannot be returned to productive use until the mines are removed. Since removal sometimes takes years, affected areas suffer continued long term economic losses from such causes as unusable farmland or transportation networks. Finally, NSD APL often prevent the return of refugees to their homelands, placing increased

economic, political and social strains on the areas that host them.

Because NSD APL remain in place and lethal long after the conflict has ended and are difficult and expensive to find and remove, they have become the humanitarian disaster we see in many nations around the world today. In response to this situation, there developed two diplomatic initiatives to limit the irresponsible use of APL, the Convention on Conventional Weapons and the Ottawa Process.

CONVENTION ON CONVENTIONAL WEAPONS

In 1980, the United Nations sponsored Convention on the Use of Certain Conventional Weapons (CCW) produced the first attempt to specifically regulate APL. Protocol II of the 1980 CCW makes it unlawful to target noncombatants or to use landmines indiscriminately. It also requires that remotely delivered minefields be used only in a military objective area unless they are self-neutralizing or their location can be accurately recorded. In addition, combatants are obligated to keep records describing the location of minefields and these records must be delivered to whoever occupies the mined territory at the end of the conflict. Approximately 50 nations, including Russia, China and the United States signed the 1980 CCW.[5]

However, the CCW of 1980 did not halt the irresponsible use of APL, primarily because the parties causing the problem, mostly the participants in civil wars, never signed the convention. On the other hand, most of the nations that did sign the convention were already in compliance with its requirements. Meanwhile, as non-governmental organizations (NGOs) such as the International Committee of the Red Cross worked to relieve human suffering in areas torn by civil war, they noted the toll wrought by NSD APL on civilian populations. Hence, they added their voices to the international chorus calling for a ban on APL.

In 1995 the international community convened to review and update the CCW's APL requirements. Several participating governments and NGOs aimed to achieve a complete ban on APL but the major mine producing nations, such as China and Russia, and nations with long hostile borders to defend, such as Finland, could not agree to this goal. In May 1996 the participants adopted a less far reaching amendment of Protocol II, adding the requirements that APL have sufficient metal content to be detectable by common mine detectors and that certain types of APL be self-neutralizing or self-destructing.[6]

The CCW process is ongoing, with negotiations on further adjustments to Protocol II scheduled to resume this year. The US hopes to see further restrictions on the irresponsible use of APL implemented through an agreement that all can sign. A summary of the current requirements of Protocol II of the Convention on the Use of Certain Conventional Weapons follows:

- APL may not be targeted against civilians or used indiscriminately.
- Minefield locations must be recorded and the party which installs the minefield is responsible for removing it.
- Undetectable or anti-mine detector APL are prohibited.

- Remotely delivered APL must be self-destructing or self-neutralizing.
- These rules apply to internal as well as international conflicts[7]

THE OTTAWA TREATY

The Canadian Government was among those frustrated with the CCW's failure to produce a ban on APL. As a result, Canada sponsored a meeting in Ottawa in October 1996 to explore ways to promote a ban outside of the CCW process. From this initial meeting of 74 governments plus several NGOs sprang the "Ottawa Process," a worldwide movement which produced the Ottawa Treaty.[8] The most important provisions of the treaty follow:

- The main provision of the Ottawa Treaty is its ban on the use, production, stockpiling or transfer of anti-personnel mines. Also, each signatory agrees to destroy its existing stocks of APL and remove them from all existing minefields under their control.
- The treaty will enter into force six months after 40 signatories ratify it.
- Claymore mines are exempt from the provisions of the treaty, as are anti-handling devices physically attached to anti-tank mines.
- Signatories may maintain small stocks of APL for training their armed forces on mine detection, clearance and destruction techniques.

- Signatories are required to make exhaustive annual reports on their compliance status to the Secretary-General of the United Nations.
- The signatories will meet annually to review the operation and status of the treaty.
- The treaty may be amended by a two thirds majority vote of the signatories.
- Signatories may withdraw from the treaty after six months notice unless at the end of the six month period they are engaged in an armed conflict. In this case withdrawal does not become effective until the end of the conflict.
- Signatories have four years to destroy their APL stockpiles.
- Signatories have ten years to remove all APL from mined areas they control. However, by a majority vote of signatories, any treaty member can be granted up to a ten year extension for this requirement.
- A compliance inspection of any treaty member can be conducted if a majority of signatories concur. However, the party to be inspected has approval authority over all inspectors and may deny the inspectors access to any areas it deems necessary to protect sensitive equipment or information, to protect

its citizens constitutional rights or to protect the safety of the inspection team.[9]

ANALYSIS OF THE OTTAWA TREATY

The treaty has several weaknesses and loopholes that limit its potential effectiveness. Although it encourages all signatories to immediately begin compliance, the treaty will not take effect until 40 signatories have ratified it, a process that will likely take at least two years and possibly several more.[10] Combined with the four years allowed to destroy existing stockpiles and up to twenty years allowed to remove in place APL, signatories ultimately have at least six to ten years to destroy stockpiles and upwards of a quarter of a century to remove installed APL. This means any potential effects on the humanitarian problem may be very slow in coming. Meanwhile nations which comply promptly put themselves at a disadvantage, particularly if they have security interests which may conflict with those of non-signatories, signatories who are slow to comply with the treaty or signatories who never comply with the treaty.

The provisions for compliance verification are weak. While the treaty does require each signatory to provide extensive annual reporting of compliance measures, there are no provisions for regular inspections or any other means of verifying the reports. Only if one signatory lodges a complaint against another is there any inspection procedure.

However, the right of the accused treaty violator to approve all inspectors and to prevent inspectors from visiting any area they deem inappropriate, make the effectiveness of such an inspection questionable.

Perhaps the most significant drawbacks of this treaty are the provisions it does not contain. It establishes no penalty for non-compliance and no means for enforcing compliance. Consequently there is little incentive for signatories to adhere to the treaty if their interests are better served by continuing to use APL. Also, it does little in practical terms to remove the millions of NSD APL that are currently in place around the world.

In terms of the ends, ways, means strategic paradigm, we can say the "ends" of the Ottawa Process were to eliminate the danger posed to civilians by APL. However, this danger has two components- the APL currently installed in minefields around the world and the APL that may be installed in the future. The treaty only addresses the APL that may be emplaced during future conflicts. The "ways" of achieving the ends is an agreement by the signatories to voluntarily stop using APL. In the absence of solid verification procedures and penalties for non-compliance, the Ottawa Process provides no "means" to execute the ways it has chosen, beyond possible international approbation for violators.

Further, the treaty does not address the most pressing component of the humanitarian problem, that of currently installed APL. Nearly all of this danger is in developing nations such as Cambodia, Afghanistan or Namibia where millions of APL remain from current or past internal conflicts. These nations cannot afford the expense of the extensive demining operations needed to remove the APL in their territory. Instead, they must depend on developed nations to provide the money, equipment and demining trainers to remove these mines. Neither the Ottawa Process nor the treaty it produced did anything to raise the funds necessary to address this problem.

Perhaps, as some have proposed, the millions of dollars spent on producing the treaty would have been better spent on helping to remove mines already in place. In fact, the argument is made that the treaty may actually hinder demining efforts because many potential contributors to the demining process may tend to believe that there is no longer an APL problem since the world now has a treaty banning the use of APL.[11]

Finally, it must be noted that many other nations did not sign the treaty, including Russia, China, India, Pakistan, Iraq, Iran, Libya, Syria, Jordan, Egypt, Israel, Finland, Turkey, North Korea and South Korea.[12] The absence of so many nations that are potentially hostile to each other or other

nations certainly calls the treaty's potential effectiveness into question. Of course insurgencies, which are the chief culprits in causing the humanitarian problem, will not be bound by the treaty in any case. For example, the Khmer Rouge in Cambodia have declared their "inalienable right" to use APL in any manner they see fit.[13]

We can see that the Ottawa Treaty has many weaknesses that will limit its effectiveness. However, the argument is made that the US should sign the treaty because, despite its weaknesses, this agreement will end the humanitarian APL problem by establishing an international norm that will stigmatize APL usage. Indeed, one study concludes that the only way landmine use can be controlled is by assuming stigmatization will be effective.[14]

THE EFFECT OF THE US NOT SIGNING THE OTTAWA TREATY

The supporters of the Ottawa Treaty argue that although the US has not caused the APL problem, it should sign the treaty, thereby lending its moral force toward establishing an international norm against using APL. However, US policy recognizes that such a norm is unrealistic at least until alternatives to APL are developed. Consequently, rather than striving for a norm against using APL, US policy seeks to promote measures which insure that APL are used responsibly.

Moreover, the question of whether norms established by arms control treaties really prevent the use of any particular

weapon is problematic at best. The example that is often held up of such a norm is the 1925 Geneva Gas Protocol, but of course this agreement has been violated repeatedly over the years and the argument can be made that the relative lack of employment of chemical weapons in major wars has been due to factors unrelated to any norm established by the Geneva Protocol.

Indeed, a strong international norm already exists against targeting non-combatants with any kind of weapons but, particularly in the case of APL, this norm is violated frequently by insurgent groups and others. Therefore, putting aside the question of whether the US signature on the Ottawa treaty would help establish a norm or induce other nations to sign the treaty, the effectiveness of any norm so established can be seen to be questionable at best.[15]

THE OTTAWA TREATY COMPARED WITH THE CCW

The requirements of the Ottawa Treaty are more stringent than those of the CCW, making it less likely that Ottawa Treaty non-signatories will ever sign this agreement and more likely that signatories will violate its provisions. Its fundamental flaw is in trying to ban entirely such a cheap, easily fabricated weapon that has great military utility and requires such a relatively small portion of defense expenditures, even in developing nations.[16] In contrast, the CCW, while endorsing the idea of a ban, acknowledges that

achieving one is a long process that requires some intermediate steps. Consequently, it focuses on restricting the damage inflicted by APL on non-combatants. In other words the CCW strives to require responsible use of APL rather than reaching for the unrealistic goal of an immediate worldwide ban.

Of course, the CCW will inevitably suffer from some of the same ills as the Ottawa Treaty. Like the Ottawa Treaty, the CCW will do little to remove APL already in place. Some nations will not sign the CCW; some that do sign will not comply with it and although it applies to internal conflicts, many insurgent groups are certain to violate its provisions. However, by recognizing the legitimacy of APL, used responsibly, the CCW process makes it much more likely that important mine producing and exporting nations such as Russia and China will eventually agree to at least ban APL exports.

A review of the Ottawa Treaty signatories shows that the vast majority had no security interests that required the use of APL. On the other hand, the list of non-signatories reveal several nations with security interests that could be protected by the use of APL, with the majority viewing minefields as providing protection from hostile neighbors. The CCW approach at least holds out the possibility that these nations will come "in to the fold" and, particularly with

regard to an export ban, truly reduce the numbers of NSD APL available for use in internal conflicts.

We can see, therefore, that the Ottawa Treaty is a poor vehicle for controlling APL use. It has several weaknesses that will limit its effectiveness, and even if it were to establish a norm against APL use, it is doubtful that such a norm would have much effect, particularly among governments or insurgent groups whose security interests are served by APL usage. Hence, US signature of the Ottawa treaty is likely to have a negligible effect on limiting APL use or on encouraging other nations to sign or comply with the agreement. A better way to at least achieve some meaningful reduction in irresponsible APL usage is through the CCW process, a course of action endorsed in US APL policy.

US APL POLICY

US APL policy falls into two categories- that legislated by Congress and that promulgated by the executive branch. On the legislative side we find that current law prohibits the export by the US of any type of APL. It also requires a one year moratorium on using any type of APL, beginning 12 February 1999, except "along internationally recognized national borders or DMZ's."[17] So for that one year period the only place where we will be allowed to use APL is along the DMZ in Korea.

President Clinton announced major changes regarding executive branch policy on 16 May 1996. Its salient points are listed below:

- International Ban- The United States supports an international agreement to ban the use, stockpiling, production and transfer of APL, with two exceptions.
- Korea Exception- The United States reserves the right to use non-self-destructing (NSD) APL along the DMZ in Korea until alternatives to this type mine become available or the risk of aggression by North Korea has abated.
- Self-Destructing APL Exception- The United States reserves the right to use self-destructing APL in

military hostilities to safeguard American lives and hasten the end of fighting.

- Ban on NSD APL- the United States has unilaterally banned its use of all non-self-destructing APL not needed to train personnel in demining or countermining operations or defend the US and its allies "from armed aggression across the Korean Demilitarized Zone."[18]
- Program to Eliminate- The President has directed the Secretary of Defense to conduct research, development, procurement and other measures to eliminate the requirement for the two exceptions noted above and to end our reliance on APL as soon as possible.
- Demining Efforts- The Department of Defense will work to develop improved mine detection and clearing technology and share these developments with the international community. It will also expand its demining program to train and assist specific nations in developing and implementing their own demining programs.[19]
- Stockpile Destruction- The US has destroyed 1.5 million of its NSD APL since 1990 and will destroy its remaining stockpile of 1.5 million mines by 1999. We will retain only enough NSD APL to meet our minefield breaching and demining training requirements and our

UN mandated defense responsibilities in Korea. Also, the US is now removing the NSD APL from the minefields protecting the approaches to Guantanamo Naval base in Cuba.

- Convention on Conventional Weapons- The US continues to pursue restrictions on the employment of APL through the CCW with an ultimate goal of a general ban. Although this is a slow process, the Government believes this is the best way to insure ultimate participation by the greatest possible number of APL producing and using nations.[20]

We can see that US APL policy already meets the requirements of the latest amendments to the CCW. However, signing the Ottawa Treaty would have required an unacceptable change in our policy because the treaty makes no allowance for the use of NSD APL in special circumstances such as Korea or SD APL under any circumstances. Therefore, President Clinton declined to sign it, despite significant domestic and international political pressure to make the US a signatory.

ANALYSIS OF US POLICY

Our APL policy is on the right track, with one exception. It successfully addresses the humanitarian problems caused by NSD APL while allowing our forces to take advantage of the military effectiveness afforded by self-destructing APL and makes a reasonable exception (Korea) to our self-imposed general NSD APL ban. Our APL policy should remain as it is, with one change.

US POLICY DOES NOT CONTRIBUTE TO THE HUMANITARIAN PROBLEM

As noted previously, the humanitarian problem is primarily the result of NSD APL used by undisciplined insurgent forces fighting in civil wars.[21] In contrast, US forces do not use mines against civilians, and by our doctrine, we record and mark our minefields. With the possible exception of Vietnam, the US armed forces have had no part in the installation of the mines that are causing humanitarian problems, even under our old policy which allowed the use of NSD APL.

Now that we will only use self-destructing APL (except in Korea), there is negligible risk that our mines will be dangerous to civilians because SD mines are installed shortly before or even during the battle and self-destruct within a short time after the battle is over. In Korea, our NSD APL are confined to extremely well marked areas to which access is strictly controlled, so they pose little danger to civilians.

Also, we do not export any APL. Therefore, our policy makes it unlikely that minefields installed by US forces will pose a threat to civilians after a conflict has ended or that other nations or insurgent groups will acquire US mines.

MILITARILY ESSENTIAL AT THE OPERATIONAL AND TACTICAL LEVEL

By reserving the right to use self-destructing APL, our policy allows our armed forces the flexibility to use a legitimate and highly effective weapon of war that plays an important role in our warfighting doctrine. We use mines for four purposes. First, as a force protection measure to delay and attrit an attacker. Second, as an economy of force measure in which we use minefields to multiply the combat power of defending troops, thereby decreasing the number of defenders needed in comparison to the number that would be required if mines were not used. Third, we shape the battlefield with minefields that channel an attacking enemy force in to the area where our defenders can best engage it. Lastly, remotely delivered mines can be used deep in enemy territory to assist with interdiction operations or to deny the enemy the use of key facilities such as airfields.

Research shows that using APL in this manner reduces our casualties. For instance, combat simulation studies conducted by the Institute For Defense Analysis concluded that US casualties would increase 10% when fighting a defense in close terrain if APL were disallowed.[22] Also, the "1997 Report to

Congress on the Anti-personnel Landmine Use Moratorium," prepared for the Chairman of the Joint Chiefs of Staff, estimates that forbidding the use of APL could result in 15% to 35% higher casualties depending on terrain and type of operation.[23]

The bottom line is that prudent and responsible APL usage reduces our casualties and increases our chances of accomplishing our mission. For this reason the Joint Chiefs of Staff and all of the Commanders in Chief of our joint warfighting commands have written to the Chairman of the Senate Armed Services Committee, Senator Strom Thurmond, strongly urging that the US retain the right to use self-destructing APL.[24]

NECESSARY FOR OUR NATIONAL SECURITY STRATEGY

Looked at through the ends, ways and means strategic model, we can see that the ability to use APL is critical both in the military doctrine (ways) used to achieve our strategic objectives (ends) and as a means for implementing our plans. Joint Publication 3-15, Joint Doctrine for Barriers, Obstacles and Mine Warfare and the US Army's Field Manual 90-7, Combined Arms Obstacle Integration detail how deeply APL are embedded in our warfighting doctrine.

Mines, as an inherently defensive weapon, enhance deterrence at the strategic level without the provocation that a build up of offensive weapons may entail. Also, their use

along a hostile border can demonstrate our resolve.[25] On the other hand, removal of static minefields, as the Ottawa Treaty would require along the Korean DMZ, may signal a lessened resolve to potential aggressors.

Turning to the criticality of APL as a means of obtaining our security objectives, let us examine their use in "first battles." Whether our forces are quickly introduced to a theater of war, as in Desert Shield, or forward deployed, as in Korea, we often start the first battle on the defensive. Mines play a key part in this type of fight, particularly in their force protection role where they help delay and attrit a numerically superior foe thus giving later deploying forces time to arrive in theater.[26]

This force protection function is also critical in minimizing casualties, an issue that in addition to having a tremendous impact on mission accomplishment has become increasingly important in determining public support for commitment of American ground combat forces. We see therefore, that the responsible use of APL is key, both as a "way" and a "means" of implementing our national security strategy.

Another "means" impact of our ability to use APL is seen in the force structure of our ground combat forces, which counts heavily on the economy of force role that mines can play. Our current organization and manning requirements are

predicated on the relatively large amount of combat power that mines give to a relatively small force, particularly in defensive operations. Should the use of APL be disallowed then the force, as currently sized, will lose combat power.

Given existing technology, the only way to maintain combat power at the current level would be to increase the size of the force, but based on recent US defense spending trends, this is not a likely event. Indeed, the reduction in our active and reserve component forces of the past few years makes the economy of force function of mines even more critical as a means of implementing our national security requirements.

OTHER US APL POLICY ELEMENTS

The legislative requirement for a one year moratorium on the use of self-destructing APL should be abolished. As we have seen, these weapons do not cause humanitarian problems and are a vital tool for our armed forces. In addition, the majority of our self-destructing anti-tank mines come packed with anti-personnel mines in their deployment canisters. This is because, as discussed earlier, the APL are needed to prevent dismounted enemy forces from easily neutralizing the AT mines. Therefore, banning the use of SD APL effectively bans a large portion of our self-destructing anti-tank mines as well. This poses a needless risk to our security interests

and will do nothing to solve the humanitarian problem caused by APL.

With regard to the other elements of our policy, increasing our research and development of mine detection and clearing devices and providing demining assistance are sound undertakings which will have a great impact on solving the humanitarian problems caused by APL. Research on alternatives to landmines or new technologies to limit their potential impact on non-combatants deserves increased funding. With luck this work may do away with the need to use APL, replacing them instead with weapons less potentially harmful to civilian populations.

IMPLEMENTING US APL POLICY

The US military is changing its doctrine, warplans and training to incorporate President Clinton's new APL policy requirements of May 1996. The US Army Engineer School is rewriting the doctrine for tactical minefields to account for the loss of NSD APL and the authorizations for live mine training in all locations except Korea are being eliminated.[27] Also, all the regional Commanders in Chief for our joint warfighting commands must remove NSD APL from their unit basic loads of ammunition and change their war plans to eliminate the use of NSD APL.[28]

On the humanitarian side of this issue, the US is a leader in demining assistance, having spent $153 million from 1993 to 1997 to pay for demining operations and train foreign deminers, more funding than provided by the rest of the world combined.[29] Looking ahead, another $77 million is programmed for this task in 1998.[30]

In addition, the Department of Defense is stepping up efforts to find alternatives to landmines. The Joint Requirements Oversight Council has already approved a Mission Needs Statement for accelerated acquisition of landmine alternatives, although funding sources for this effort have not been identified.[31] Also, work is ongoing through several

Department of Defense programs to develop better methods of detecting and clearing mines.[32]

One such program is underway at the US Army Engineer School at Fort Leonard Wood, Missouri where work on better landmine detection equipment has a long history. Work is progressing on integrating several standoff mine detection technologies with various air and ground platforms. The most promising systems employ a combination of metallic, ground penetrating radar and infrared sensors. A computer processes the sensor input, combining the strengths of each to provide more accurate detection than any of the three could provide separately.[33]

Work is also being done at Fort Leonard Wood to develop potential replacements for APL. Possible non-lethal alternatives include radio frequency kill munitions that use a non-nuclear electromagnetic pulse to destroy electronic components, sticky foam mines and soft projectile munitions. Possibly the most promising alternative is "man in the loop" technology which allows an operator to command detonate mines by using a console linked by cable or radio to sensors that are integrated with the mines. This would negate the "victim activated" nature of APL.[34]

RECOMMENDATIONS

In light of the foregoing discussion, we can see that with the exception of the one year ban scheduled for 1999, US APL policy should remain as is. We should not sign the Ottawa Treaty since it will in all likelihood have little impact on the humanitarian problem caused by APL. However, it will needlessly hamper the execution of our national security strategy and put our service personnel at greater risk. Likewise, the congressionally mandated one year APL use moratorium should be repealed because it needlessly puts our soldiers and security interests at risk for no substantial benefit.

We should continue aggressive research and development programs for improved landmine detection and clearing technology as well as for landmine alternatives that may one day obviate the need to use APL. As these new technologies are researched, developed and fielded we will need to consider the changes to doctrine and force structure that may be necessary to employ them most efficiently.

Finally, we should continue to work through the CCW to further develop agreements on landmine usage that reduce APL impact on non-combatants. Working through this forum is the best way to achieve results on which all the major producers and users can agree. Although this approach may not lead to a

total ban, it is more likely than the Ottawa Treaty to produce a regime which truly reduces the humanitarian impact of APL.

CONCLUSION

As we have seen, APL are an important means of executing our national security strategy. In light of the humanitarian problems caused by irresponsible use of NSD APL by other parties, the United States has taken the correct step in adopting a policy which properly addresses these concerns. At the same time the policy allows the continued use of self-destructing APL, which do not cause humanitarian problems, are legitimate, militarily useful weapons and ultimately reduce American casualties in certain battlefield situations.

President Clinton was right not to sign the Ottawa Treaty because it would ban our NSD APL in Korea and any use of self-destructing APL. It would require us to put our soldiers at risk to solve a problem we did not cause, indeed, a problem that our current APL policy insures we are unlikely to ever cause. In addition, it is doubtful that by signing the treaty we would contribute to solving the humanitarian problem caused by APL. Therefore we would be putting our national security strategy as well as our soldiers at risk for little, if any, reduction in the threat posed to non-combatants by irresponsible APL usage.

We can see, finally, that the current US APL policy is sound, from both a humanitarian and national military strategy standpoint, and that we should therefore refrain from signing the Ottawa Treaty. With diligent effort and some luck, there

may come a day when we have alternative weapons that can replace APL. However, for now they continue to be legitimate weapons that, with responsible use, can play an important role in winning our wars and safeguarding our soldiers without putting non-combatants at undue risk.

By banning all APL in all circumstances the Ottawa Treaty exacts too high a price from law abiding nations for too little humanitarian gain. Instead we should focus on promoting the removal of currently installed APL and developing agreements through the CCW which aim to limit the irresponsible use of these weapons. The current US policy is fair and just. Except for abolishing the one year moratorium on self-destructing APL use in 1999, US APL policy should not be changed.

(5939 words)

ENDNOTES

[1]Mary H. Cooper, "Banning Land Mines," CQ Researcher, 8 August 1997, 697.

[2]Ibid., 711.

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